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QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER

DESIR, PIERRE LOUIS

ART UNIT	PAPER NUMBER
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2617

NOTIFICATION DATE	DELIVERY MODE
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04/28/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
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nanm@qualcomm.com

Office Action Summary	Application No. 10/792,062	Applicant(s) WANG ET AL.	
	Examiner PIERRE-LOUIS DESIR	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-20 and 22-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-20 and 22-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-5, 7-20, 22-45 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 4-5, 7-20, 22-27, 29-32, 34-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Rowitch et al (Rowitch), US 20040248551 A1

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1 and 18, Rowitch discloses a method an apparatus of providing location services (LCS) (see abstract), comprising: receiving a request for location information for a mobile station (i.e., sending a request for positioning to the MPC) (see paragraph 31);

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determining whether present location information is available from a cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station) (see paragraph 36); performing authorization for location determination based on a first security procedure (i.e., location determination may utilize a first security procedure for authorization and to obtain a first session key used for location determination) (see abstract); performing location determination via a first set of at least one network entity to obtain location information for the mobile station responsive to the request for the location information when present location information for the mobile station is unavailable (see abstract and paragraphs 36-37); performing authorization for location disclosure based on a second security procedure, independent of the first security procedure (i.e., location disclosure may utilize a second security procedure for authorization and to obtain a second session key used for location disclosure) (see abstract); and performing location disclosure via a second set of at least one network entity to provide the location information for the mobile station responsive to the request for the location information (i.e., location disclosure may be performed via a second set) (see abstract), and skipping the location determination when the present location information for the mobile station is available from the cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station (see paragraph 36). Inherently, if location information is available from the cache, the position location engine will not be needed to determine the position of the mobile station).

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Regarding claims 2, 19, and 26, Rowitch discloses a method (see claims 1, 18, and 24 rejections) further comprising performing authentication for the location determination based on the first security procedure; and performing authentication for the location disclosure based on a the second security procedure (see abstract).

Regarding claims 4, 20, 27, and 37, Rowitch discloses a method and apparatus (see claims 1 18, 24, and 30 rejections) further comprising performing a first session key setup to obtain a first session key, wherein the first session key is used for authentication and encryption of messages exchanged with the first set of at least one network entity (see abstract); and performing a second session key setup to obtain a second session key, wherein the second session key is used for authentication and encryption of messages exchanged with the second set of at least one network entity (see abstract).

Regarding claim 5, Rowitch discloses a method (see claim 1 rejection) wherein the location determination and the location disclosure are performed in two separate LCS sessions (i.e., location determination and location disclosure) see abstract).

Regarding claim 7, Rowitch discloses a method (see claim 1 rejection) wherein the first set of at least one network entity is located in a serving network for the mobile station and the second set of at least one network entity is located on a home network for the mobile station (see abstract)

Regarding claim 8, Rowitch discloses a method (see claim 1 rejection) wherein the location disclosure is performed by a location client (i.e., LBS client/application) (see paragraphs 17 and 24) and a location server (i.e., position location engine) (see paragraph 24).

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Regarding claim 9, Rowitch discloses a method (see claim 8 rejection) wherein the second set of at least one network entity includes an LCS provider (see paragraph 32), and wherein the location client is located in the mobile station or the LCS provider (see paragraph 8).

Regarding claim 10, Rowitch discloses a method (see claim 8 rejection) wherein the second set of at least one network entity includes an LCS server (i.e., position location engine) (see paragraph 24), and wherein the location server is located in the mobile station or the LCS server (see fig. 4).

Regarding claim 11, Rowitch discloses a method (see claim 1 rejection) wherein the first set of at least one network entity includes a position determining entity (PDE) (see fig. 4).

Regarding claim 12, Rowitch discloses a method (see claim 11 rejection) wherein the first set of at least one network entity further includes a serving mobile positioning center (SMPC) (see paragraphs 31-32).

Regarding claim 13, Rowitch discloses a method (see claim 11 rejection) wherein the first set of at least one network entity further includes a home authentication, authorization, and accounting entity (H-AAA) (i.e., location determination utilizes a first security procedure for authorization and the location determination may be performed via a serving network for a roaming mobile station (see abstract). Thus, the first network entity contains an H-AAA).

Regarding claim 14, Rowitch discloses a method (see claim 1 rejection) wherein the second set of at least one network entity includes an LCS server (i.e., position location engine) (see fig. 4 and paragraph 24).

Regarding claim 15, Rowitch discloses a method (see claim 14 rejection) wherein the second set of at least one network entity further includes a home authentication, authorization,

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and accounting (H- AAA) entity (i.e., location disclosure may utilize a second security procedure for authorization and to obtain a second session key used for location disclosure (see abstract).

Thus, the second entity includes as H-AAA).

Regarding claim 16, Rowitch discloses a method (see claim 1 rejection) wherein the location information for the mobile station comprises a location estimate for the mobile station (see paragraph 45).

Regarding claim 17, Rowitch discloses a method (see claim 1 rejection) wherein the location information for the mobile station further comprises an uncertainty for the location estimate for the mobile station (see paragraph 49).

Regarding claims 22 and 23, Rowitch discloses a mobile station and tangible medium comprising a processor (inherent) operative to receive a request for location information for a mobile station (i.e., sending a request for positioning to the MPC) (see paragraph 31); determine whether present location information is available from a cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station) (see paragraph 36); perform authorization for location determination based on a first security procedure (i.e., location determination may utilize a first security procedure for authorization and to obtain a first session key used for location determination) (see abstract); perform location determination via a first set of at least one network entity to obtain location information for the mobile station responsive to the request for the location information when present location information for the mobile station is unavailable (see abstract and paragraphs 36-37); perform authorization for location disclosure

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based on a second security procedure, independent of the first security procedure (i.e., location disclosure may utilize a second security procedure for authorization and to obtain a second session key used for location disclosure) (see abstract); and perform location disclosure via a second set of at least one network entity to provide the location information for the mobile station responsive to the request for the location information (i.e., location disclosure may be performed via a second set) (see abstract), and skipping the location determination when the present location information for the mobile station is available from the cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station (see paragraph 36). Inherently, if location information is available from the cache, the position location engine will not be needed to determine the position of the mobile station); wherein the first function interacts with at least one peer first function located in a first set of at least one network entity to obtain the location information (see paragraphs 24-26), and wherein the second function interacts with at least one peer second function located in a second set of at least one network entity to provide the location information (see paragraphs 36-37).

Regarding claims 24 and 29, Rowitch discloses a mobile station and method of providing location services (LCS), comprising: receiving a request for location information for a mobile station performing location determination via a first secure LCS session to obtain location information for the mobile station responsive to a request for the location information when the present location information for the mobile station is unavailable from a cache (see abstract and paragraphs 24-26); and performing location disclosure via a second secure LCS session,

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independent of the first secure LCS session, to provide the location information for the mobile station responsive to the request for the location information (see abstract and paragraphs 24-26), and skipping the location determination when the present location information for the mobile station is available from the cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station (see paragraph 36). Inherently, if location information is available from the cache, the position location engine will not be needed to determine the position of the mobile station).

Regarding claim 25, Rowitch discloses a method (see claim 24) wherein the first and second secure LCS sessions are performed at different times (i.e., first location determination is performed, then location disclosure is performed) (see abstract).

Regarding claims 30 and 35, Rowitch discloses a method and apparatus of providing location services (LCS), comprising: performing authorization for location determination responsive to a first request for location information based on a first security procedure (see abstract); obtaining location information for the mobile station responsive to a the first request for location information for the mobile station when present location information for the mobile station is unavailable from a cache (see paragraph 37); performing authorization for location disclosure responsive to the first request for location information based on a second security procedure, independent of the first security procedure (see abstract); providing the location information to a first application responsive to the first request for the location information for the mobile station (see paragraph 53), and skipping the obtaining the location information when

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the present location information for the mobile station is available from the cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station (see paragraph 36). Inherently, if location information is available from the cache, the position location engine will not be needed to determine the position of the mobile station); performing authorization for location disclosure responsive to a second request for location information based on the second security procedure (see abstract); and providing the location information to a second application responsive to a the second request for the location information for the mobile station (see abstract and paragraph 37), and skipping the obtaining the location information when the present location information for the mobile station is available from the cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station (see paragraph 36). Inherently, if location information is available from the cache, the position location engine will not be needed to determine the position of the mobile station).

Regarding claim 31, Rowitch discloses a method (see claim 30 rejection), wherein the location information is obtained by performing location determination once via one location determination session (see abstract) and wherein the location information is provided to the first and second applications by performing location disclosure twice via two location disclosure sessions (i.e., location disclosure through the cache and through the position location engine) (see paragraphs 36-37).

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Regarding claim 32, Rowitch discloses a method (see claim 30 rejection) further comprising: caching the location information in the mobile station or a network entity (see abstract).

Regarding claim 34, Rowitch discloses a method (see claim 30 rejection) wherein the first application is located in a first network and the second application is located in a second network (i.e., for roaming mobile station, location determination may be performed via a serving network and location disclosure may be performed via a home network) (see abstract).

Regarding claims 36 and 43, Rowitch discloses a method an apparatus of providing location services (LCS) (see abstract), comprising: receiving a request for location information for a mobile station (i.e., sending a request for positioning to the MPC) (see paragraph 31); determining whether present location information is available from a cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station) (see paragraph 36); performing authorization for location determination based on a first security procedure (i.e., location determination may utilize a first security procedure for authorization and to obtain a first session key used for location determination) (see abstract); performing location determination via a first set of at least one network entity in a serving network to obtain location information for the mobile station responsive to the request for the location information when present location information for the mobile station is unavailable (see abstract and paragraphs 36-37); performing authorization for location disclosure based on a second security procedure, independent of the first security procedure (i.e., location disclosure may utilize a second security

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procedure for authorization and to obtain a second session key used for location disclosure) (see abstract); and performing location disclosure via a second set of at least one network entity in a home network to provide the location information for the mobile station responsive to the request for the location information (i.e., location disclosure may be performed via a second set) (see abstract), and skipping the location determination when the present location information for the mobile station is available from the cache (i.e., the MPC checks to see whether there is a need for the position location engine to determine the position of the mobile station. That is there are instances in which a cached position for the mobile station may be used rather than having to recalculate the location of the mobile station (see abstract and paragraph 36). Inherently, if location information is available from the cache, the position location engine will not be needed to determine the position of the mobile station).

Regarding claim 38, Rowitch discloses a method (see claim 36 rejection) wherein the at least one network entity in the serving network includes a serving mobile positioning center (SMPC) (see paragraphs 31-32), the method further comprising determining an Internet Protocol (IP) address of the SMPC (i.e., IP address) (see paragraph 32).

Regarding claim 39, Rowitch discloses a method (see claim 38 rejection) wherein the IP address of the SMPC is determined using a fully qualified domain name (URL) for the SMPC (see paragraphs 31-32).

Regarding claim 40, Rowitch discloses a method (see claim 38 rejection) wherein the location disclosure is performed via the SMPC (see paragraphs 32 and 36).

Regarding claim 41, Rowitch discloses a method (see claim 36 rejection) further comprising: sending a message to the mobile station to trigger the mobile station to initiate a

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LCS session for performing location determination (i.e., the mobile station is notified that the LBS application is attempting to run) (see paragraph 30).

Regarding claim 42, Rowitch discloses a method (see claim 36 rejection) further comprising: caching the location information in the mobile station, a network entity in the serving network, a network entity in the home network, or a combination thereof (see abstract)

Regarding claim 44, Rowitch discloses a method of providing location services (LCS), comprising: receiving a request for location disclosure (i.e., sending a request for positioning to the MPC) (see paragraph 31); authenticating and authorizing the request using a secure disclosure session (see abstract and paragraph 36); determining whether cached location information is available (see paragraph 36); if the cached location information is available, responding to the request for location disclosure with the location information in the secure disclosure session (see paragraph 36); if the cached location information is not available, initiating a request for location determination (see paragraph 37); establishing a secure determination session, independent of the secure disclosure session (see abstract and paragraphs 37 and 53); and communicating location information within the secure determination session (see paragraphs 37 and 53).

Regarding claim 45, Rowitch discloses a method (see claim 44 rejection) wherein authenticating and authorizing the request comprises receiving a request for a secure disclosure session key and providing the secure disclosure session key in response to successful authentication and validation of the request for the secure session key (see abstract).

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rowitch in view of Horn et al. (Horn), U.S. Patent No. 6064741.

Regarding claim 3, Rowitch discloses a method as described above (see claim 2 rejection).

Although Rowitch discloses a method as recited above, Rowitch does not specifically disclose a method, wherein the first security procedure is based on an MD-5 algorithm and the second security procedure is based on an Authentication and Key Agreement (AKA) procedure.

However, Horn discloses security measures based on both MD-5 algorithm and Authentication and Key Agreement (AKA) (see col. 3, lines 44-50; col. 5, lines 20-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation to do so would have been to insure the security of the location determination/disclosure procedure.

6. Claims 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowitch in view of Deloach et al. (Deloach), Pub. No. 2003/0125044.

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Regarding claim 28, Rowitch discloses a method as described in claim 24 reasoning (refer to claim 24 reasoning).

Although Rowitch discloses a method as recited above, Rowitch does not specifically disclose a method, further comprising: providing a first call detail record (CDR) for the first LCS session; and providing a second CDR for the second LCS session.

However, Deloach discloses a method for the determination of the positions of wireless mobile stations in a mobile communication network, in which When there is a physical change in the cellular infrastructure or in the cellular infrastructure configuration, the base station almanac data base server maintains records in the base station almanac data base reflecting both the old and new conditions until all of the PDEs are switched over to the new conditions (see page 2, paragraph 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described, which are analogous art because they are from the same field of endeavor, to arrive at the claimed invention. A motivation to do so would have been to ensure accuracy and completeness of the record.

Regarding claim 33, Rowitch discloses a method as described in claim 30 reasoning (refer to claim 30 reasoning).

Although Rowitch discloses a method as recited above, Rowitch does not specifically disclose a method, further comprising: providing a first call detail record (CDR) for providing the location information to the first application; and providing a second CDR for providing the location information to the second application.

However, Deloach discloses a method for the determination of the positions of wireless

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mobile stations in a mobile communication network, in which When there is a physical change in the cellular infrastructure or in the cellular infrastructure configuration, the base station almanac data base server maintains records in the base station almanac data base reflecting both the old and new conditions until all of the PDEs are switched over to the new conditions (see page 2, paragraph 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described, which are analogous art because they are from the same field of endeavor, to arrive at the claimed invention. A motivation to do so would have been to ensure accuracy and completeness of the record.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PIERRE-LOUIS DESIR whose telephone number is (571)272-7799. The examiner can normally be reached on Monday-Friday 9:00AM- 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (571)272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pierre-Louis Desir/
Examiner, Art Unit 2617

/Dwayne D. Bost/
Supervisory Patent Examiner,
Art Unit 2617